NEW HAMPSHIRE
Mathematics Content Strands Geometry
Grades 9-10
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OBJECTIVES	PAGE REFERENCES
GEOMETRY, MEASUREMENT and TRIGONOMETRY Geometry helps students describe the world in which they live and serves as a natural link to the integration of mathematics across the curriculum. Students need to investigate, experiment, and explore geometric properties using both technology and hands-on materials. Geometry lends itself to having students work in groups; we encourage you to use group work extensively (Davidson, 1990).	
GEOMETRY AND SPATIAL SENSE	
In Grades 9-10	
Have students represent and solve real world problems with two- and three-dimensional geometric models.	SE: 190 #36-38, 251 #16, 300 #3, 304 #39, 614 #25, 658 #24-25, 665 #32, 669 #25, 673 #3, 712 #32
Using technology, manipulatives, and/or coordinate geometry, have students explore, deduce, and explain the properties of geometric figures. For example, have students explore the relationships among the diagonals in the family of quadrilaterals or the concurrence of the medians, perpendicular bisectors, altitudes, and angle bisectors in a triangle.	SE: 241 #3, 242 #4, 243 #7-9, 244 #27-30, 415 #37-39, 421 #8-10, 434 #8-9, 443 #22-25 *Geometry Software Investigation* 448 *Spreadsheet Investigation* 410
Provide activities for students to deepen their understanding of congruence and similarity.	SE: 209 #3, 490-492, 615 #49-54 *Construction* 200, 202, 207 *Geometry Activity* 208, 214-215, 298 *Spreadsheet Investigation* 708-709
Have students further explore the basic transformations and extend the work to include dilations and glide reflections; explore the compositions of these transformations.	SE: 463-466, 470-471, 472 #8, 474 #35-37, 476-478, 479 #14-15, 490-493, 495 #36 *Geometry Activity* 462, 489
Students should further apply the Pythagorean relationship to the solution of problems.	SE: 21-24, 350-353, 354 #11, 356 #46, 357-359, 362 #40, 393, 715 #2 *Geometry Activity* 28, 349
Have students explore short deductive sequences and write simple proofs.	SE: 82-83, 85 #12-15, 91 #10, 94-96, 97 #10-12, 98 #26-31, 101-103, 105 #22-23, 111 #6, 114 #46-47
MEASUREMENT	
In Grades 9-10	
Students should use appropriate measurements to solve problems.	SE: 13-15, 16 #7-8, 17 #12-15, 29-33, 34 #28-33, 39 #2, 47 #2, 300 #3, 372 #3, 379 #3
Students should convert commonly used measurements to equivalent ones within a measurement system and find and use appropriate conversion rules between systems when needed.	SE: 13, 321 #28, 373 #4, 493 #5, 596 #2, 599 #26, 689 #2, 730-731 *Study Tip* 14

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Students should use dimensional analysis in the solution of real-life problems. Dimensional analysis is a powerful technique which is also used in the science classroom.	SE: 321 #28, 373 #4, 493 #5, 596 #2, 599 #26, 689 #2 *Study Tip* 14
Students should apply the Pythagorean theorem to solve measurement problems.	SE: 350-353, 354 #11, 355 #41, 356 #48-49, 357-359 *Geometry Activity* 28, 349
Have students select appropriate procedures to determine a measure when a direct measurement cannot be made.	SE: 371 #1, 372 #3, 373 #6, 374 #9, 375 #25, 379 #3, 381 #15, 390 #50, 475 #45
Have students use ratio and proportion to find the measures of all sides of similar figures; apply this technique to problem solving situations.	SE: 289-292, 293 #8-9, 294 #24-26, 300 #3, 303 #32, 304 #41, 305 #44, 314 #35-37, 321 #28, 615 #49-54
TRIGONOMETRY	
In Grades 9-10	
Explore the basic trigonometric ratios of sine, cosine, and tangent with students.	SE: 364-367, 369 #52-54, 370 #65-68, 371-373, 376 #30-35, 377-380, 385-387 *Geometry Activity* 391 *Geometry Software Investigation* 384
Students should use the basic trigonometric ratios to solve real world problems.	SE: 368 #17, 369 #49, 373 #6, 374 #14-15, 375 #25, 376 #28, 379 #3, 381 #15, 382 #38-39, 383 #44-45
Have students use technology to investigate periodic phenomenon and relate to sine and cosine functions.	See Glencoe's *Algebra* 2 © 2003 pages 739-742.